Claim 28, line 2, after "is" insert -- also -- Claim 31, line 13, after "direction" insert

-- at least --

Nine 14, cancel "second" and insert

Claim 34, line 3, before "center" insert -- fixed -line 4, after "for" insert -- separate -line 5, before "center" insert -- fixed --

Please add, the following claims:

Claim (amended). [A combination as set forth in Claim 1 wherein In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members. means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between

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the other contact member and said one contact member, said other contact member and said actuating means [have] having locking means therebetween providing a locking engagement for preventing movement between said other contact member and said ring gear when said ring gear [drives] places said other contact member against said actuating means to drive it.

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Claim 3 (amended). [A combination as set forth in Claim 1 wherein In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member, said connecting means provides providing

for movement between said other contact member and said ring gear when said other contact member is rotated with respect to said ring gear.

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Claim 4 (amended). [A combination as set forth in Claim 1 wherein In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member; said ring gear is being fixedly mounted on a hollow shaft having an output end, a cap fixed on the output end. shaft means extending through said cap into said hollow shaft engaging said means for mounting the other contact member for rotation within said ring

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gear to rotate said other contact member.

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Claim \$ (amended). \[\int \] A combination as set forth in Claim 4 wherein In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members. means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member; said ring gear being fixedly mounted on a hollow shaft having an output end, cap means rigidly fixed on the output end, shaft means extending through said cap means into said hollow shaft engaging said means for mounting the other contact member for rotation within said ring gear to rotate said other contact member, said cap means has having a top surface thereon, said top surface having

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indicia for indicating the angular movement of said cap means, an arrowhead a first indicating means on said top surface indicates one end of said angular movement while the end of said shaft means which extends through said cap member means has an arrowhead a second indicating means for indicating the other end of said angular movement.

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Glaim 7 (amended). [A combination as set forth in Claim 1 wherein In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member, said ring gear [has] having an inner

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cylindrical surface, serration means positioned around said inner cylindrical surface, said other contact member comprising a radial projection means extending from said means for mounting the other contact member, said connecting means comprising a pointer on said radial projection means engaging a serration of said serration means, movement of said ring gear in one direction driving said radial projection means to contact said actuating means.

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Claim & (amended). A combination as set forth in Claim 7 wherein | In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the

other contact member and said one contact member, said
ring gear having an inner cylindrical surface, serration
means positioned around said inner cylindrical surface,
said other contact member comprising a radial projection
means extending from said means for mounting the other
contact member, said connecting means comprising a
pointer on said radial projection means engaging a
serration of said serration means, movement of said
ring gear in one direction driving said radial projection
means to contact said actuating means, said pointer [is]
being movable over said serrations from one to the other
for disconnecting said other contact member from said
ring gear when said other contact member is rotated to
vary the angle.

ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting

the other contact member for rotation within said ring

gear, connecting means connecting said other contact

Claim 10 (amended). A combination as set forth

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member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member. said means for mounting the other contact member for rotation within said ring gear [comprises] comprising a cylindrical member located radially inwardly from said ring gear, said other contact member being fixed to said cylindrical member and extending radially outwardly therefrom, said other contact member having an outer radial end, said connecting means connecting the outer radial end of said other contact member to said ring gear, said ring gear being fixedly mounted on a hollow shaft, said hollow shaft having an output end, said cylindrical member being mounted for rotation with said hollow shaft.

Claim 11 (amended). [A combination as set forth in Claim 10 wherein] In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said

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actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member, said means for mounting the other contact member for rotation within said ring gear comprising a cylindrical member, said ring gear being fixedly mounted on a hollow shaft having an output end, said cylindrical member being mounted for rotation with said hollow shaft, said cylindrical member extends extending through said hollow shaft out of said output end, means for turning said cylindrical member to rotate said other contact member.

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Claim 13 (amended). [A combination as set forth in Claim 1 wherein] In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact

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members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear, means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member; said ring gear [is] being fixedly mounted on a hollow shaft having an output end, a cap fixed on the output end, said cap having a nozzle opening therein, means for directing liquid through said hollow shaft to said nozzle opening.

Claim ## (amended). A combination as set forth in Claim 1 having In an oscillating transmission; a ring gear mounted for rotation; means for oscillating said ring gear including actuating means for reversing rotation of said ring gear from one direction to the other, contact means rotated by said ring gear to contact said actuating means to reverse rotation from one direction to the other, said contact means being two contact members, means mounting said two contact members for relative movement to vary the angle at which said actuating means is actuated, one contact member being mounted for rotation by said ring gear,

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means for mounting the other contact member for rotation within said ring gear, connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member, second connecting means connecting said other contact member to said ring gear for being driven thereby to contact said actuating means to reverse rotation of said ring gear, said second connecting means disconnecting said other contact member from said ring gear when said other contact member is rotated to vary the angle between the other contact member and said one contact member.

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Claim 20 (amended). An oscillating transmission as set forth in Claim 29 wherein said second contact means and said first actuating contact surface have a locking mating engagement when said output gear means drives said second contact means against said first actuating contact surface locking said output gear means to said second contact means.

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Claim 24 (amended). A combination as set forth in Claim 23 wherein said outer cap member has a top surface thereon, said top surface having indicia for indicating the angular movement of said outer cap member, an arrowhead a first indicating means on said top surface indicates one end of said angular movement while the end of said shaft which extends through said outer cap member has an arrowhead a second indicating means for indicating the other end of said angular movement.

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Claim 32 (amended). An oscillating transmission having an output gear, said output gear having an axis, a gear\cage with two drive gears, a first drive gear and a second drive gear for alternate driving engagement with\said output gear to oscillate it, said first and second drive gears both being in continuous engagement with said output gear, an idler gear in engagement with said first drive gear, said second gear and aaid idler gear being spaced apart, an input gear located between said second gear and said idler gear said gear cage being mounted for pivotal movement around the axis of said output gear, means for pivoting said gear cage to bring said second gear or\said idler gear into engagement with said input gear to drive said output gear in one direction or the other.

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claim 33 (amended). An oscillating transmission as set forth in Claim 32 having wherein said means for pivoting said gear cage has a toggle device mounted adjacent said gear cage for reversing its movement, said gear cage and toggle device being mounted for separate pivotal movement about around the same axis.

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Claim 38 (amended). An oscillating transmission as set forth in Claim 34 wherein said toggle device has overcenter spring means for biasing said toggle device in one direction or the other, said spring means [acting] being located between said fixed center cylindrical member and said toggle device acting outwardly on said toggle device.

forth in Claim 34 wherein said gear cage has a bottom plate, said toggle device comprising a circular plate between said bottom plate and base member, said bottom plate and circular plate each having a co-axial center opening fitting over the center cylindrical member, said toggle device having overcenter spring means for biasing said circular plate in one direction or the other, said circular plate having a cut-out portion extending from its center opening to a point radially outward therefrom, said spring means being located in said cut-out portion extending between said center cylindrical member and said midpoint of said circular plate for acting outwardly on said circular plate.

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Claim 40. An oscillating transmission having an output gear, means for mounting said output gear for rotation about an axis. a gear cage with two drive gears, a first drive gear and a second drive gear for 5 alternate driving engagement with said output gear to oscillate it, means pivotally mounting said gear cage for movement, means for alternately pivoting said gear cage in one direction to drivingly engage said first drive gear with said output gear or in the other direction to drivingly engage said second drive gear with 10 said output gear \including spring means for biasing said gear cage in one direction or the other direction, said means for alternately pivoting said gear cage having a toggle device pivotally mounted with respect 15 to said gear cage for reversing the movement of said gear cage, said gear cage and toggle device being mounted for separate \pivotal movement, said toggle device comprising a plate pivotally mounted around the axis of said output gear, said spring means biasing 20 said gear cage in one direction or the other direction through said plate, said spring means having fixed first spring seat means located radially inwardly of said plate, said plate having \second spring seat means located radially outwardly on said plate, said spring 25 means being located between said first spring seat means and said second spring seat means for acting outwardly on said plate to bias it in one direction or the other direction.

Claim 1. An oscillating transmission as set forth in Claim 40 wherein said spring means is located in a cut-out portion of said plate.

wherein said locking means between said other contact member and said actuating means includes mating surfaces on said other contact member and said actuating means which maintain said other contact member and ring gear in locking engagement for preventing movement between said other contact member and said ring gear when said ring gear places said other contact member against said actuating means to drive it.

claim 43. An oscillating transmission having an output gear, said output gear being mounted for rotation in either direction, a gear cage having a first drive gear and a second drive gear for alternately driving said output gear to oscillate said output gear between a first and second angular position, means mounting said gear cage for movement between a first and second drivingly engaged position, means for alternately moving said gear cage in one direction to said first drivingly engaged position to drivingly engage said first drive gear with said output gear to drive said output gear in a direction to its second angular position and in the other direction to said second drivingly engaged position to drivingly engage said second drive gear with said output gear to drive said output gear in a direction to its first

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angular position, said means for alternately moving said gear cage including first biasing means for alternately biasing said gear cage in one direction or the other to its first or second drivingly engaged position, said means for alternately moving said gear cage removing the bias of said first biasing means from said gear cage during the movement of said output gear to its first or second angular position, and second biasing means for directly biasing said gear cage in said one direction towards its first drivingly engaged position to maintain said gear cage biased in said one direction when said first biasing means for biasing has been removed to move said gear cage in said other direction at least until said first biasing means is biasing said gear cage in said other direction.

Claim 41. A combination as set forth in Claim 43 wherein said second biasing means is also for directly biasing said gear cage in said other direction towards its first drivingly engaged position to maintain said gear cage biased in said other direction when said first biasing means for biasing has been removed to move said gear cage in said one direction until said first biasing means is biasing said gear cage in said one direction.

Claim 45. A combination as set forth in Claim 43 including a downward projection on said gear cage having a surface on which said second biasing means acts.

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Claim 46. A combination as set forth in Claim 45 wherein said surface is contoured to vary the effect of the second biasing means.

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Claim 47. In combination in a transmission, a hollow output shaft having a radial flange with an annular flange extending downwardly therefrom, an internal ring gear formed around the inner surface of said annular flange, serrations formed around the inner surface of said annular flange between said radial flange and said internal ring gear, gear means engaging said internal ring gear for rotating said hollow output shaft in one direction and then in the other direction for oscillation, a toggle device means for changing the direction of rotation of said hollow output shaft at each end of a predetermined angle, said toggle device means having actuating means to move said toggle device means in one direction or the other, means for mounting a cylindrical member for concentric rotation with said hollow output shaft, said cylindrical member having one end extending into said annular flange and the other end extending downwardly therefrom, said one end of said cylindrical member having a first radial projection for contacting said actuating means and moving it in one direction, said radial projection having a pointer engaging one of said serrations, a second projection mounted for rotation by said annular flange for contacting said actuating means and moving it in the other direction, a centerbody means connected

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to the interior of said cylindrical member for rotation therewith, and means for rotating said centerbody means in relation to said hollow output shaft which moves said cylindrical member with said pointer overriding said serrations to vary the predetermined angle between the first radial projection and second projection.

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Claim 48. In combination in a transmission, a hollow output shaft having a radial flange with an annular flange extending downwardly therefrom, an internal ring gear formed around the inner surface of said annular flange, serrations formed around the inner surface of said hollow output shaft, gear means engaging said internal ring gear for rotating said hollow output shaft in one direction and then in the other direction for oscillation, a toggle device means for changing the direction of rotation of said hollow output shaft at each end of a predetermined angle, said toggle device means having actuating means to move said toggle device means in one direction or the other, means for mounting a cylindrical member for concentric rotation with said hollow output shaft, said cylindrical member having a first radial projection for contacting said actuating means and moving it in one direction, a second projection mounted for rotation by said annular flange for contacting said actuating means and moving it in the other direction, a centerbody means connected to the interior of said cylindrical member

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below said hollow output shaft for rotation therewith, said centerbody means having short vanes projecting therefrom into said hollow output shaft engaging said serrations, and means for rotating said centerbody means in relation to said hollow output shaft which moves said cylindrical member with said short vanes overriding said serrations to vary the predetermined angle between the first radial projection and second projection.

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Claim 49. In combination in a transmission, a hollow output shaft having a first inner surface and an outwardly extending radial flange with an annular flange extending downwardly therefrom, said annular flange having a second inner surface, an internal ring gear formed on the inner surface of said annular flange, serrations around one of said inner surfaces, gear means engaging said internal ring gear for rotating said hollow output shaft in one direction and then in the other direction for oscillation, a toggle device means for changing the direction of rotation of said hollow output shaft at each end of a predetermined angle, said toggle device means having actuating means to move said toggle device means in one direction or the other, means for mounting a cylindrical member for concentric rotation with said hollow output shaft, said cylindrical member having a first projection for contacting said actuating means and moving it in one direction, a second projection mounted for rotation by said annular flange for contacting

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said actuating means and moving it in the other direction, serration engaging means connecting said cylindrical member and first projection to said serrations, means for rotating said cylindrical member and first projection in relation to said hollow output shaft and annular flange to move said serration engaging means to override said serrations to vary the angle between said first projection and said second projection to set them at a predetermined angle.

Claim 50. A combination as set forth in Claim 49 wherein said serrations are around the inner surface of said annular flange, and said serration engaging means is a pointer on said first projection engaging one of said serrations.

Claim 51. A combination as set forth in Claim #9
wherein said serrations are around the inner surface of
said hollow output shaft, and said serration engaging
means is connected to said cylindrical member and has
vane means extending into said hollow output shaft
engaging said serrations.

Claim 52. A combination as set forth in Claim 49 wherein said means for rotating said cylindrical member and first projection includes a shaft extending into said hollow output shaft and engaging said cylindrical member to set a predetermined angle between said first projection and said second projection.

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Claim 53. A combination as set forth in Claim 52 including indicating means providing a visual representation of the predetermined angle at which said hollow output shaft is set to oscillate through.

wherein a cap means is rigidly fixed on the hollow output shaft; said cap means having a top surface thereon; said shaft extending through said cap means to said top surface; said indicating means including indicia on said top surface for indicating the angular movement of said cap means, a first indicating means on said top surface indicating one end of said angular movement and a second indicating means on the end of said shaft for indicating the other end of said angular movement.

Claim 55. A combination as set forth in Claim 54 wherein said cap means has a nozzle opening therein, means for directing liquid through said hollow shaft to said nozzle opening.

Claim 56. A combination as set forth in Claim 55 wherein said first indicating means on said top surface is aligned with said nozzle opening.

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Claim 57. A combination as set forth in Claim # including nozzle means connected to the end of said cylindrical member extending out of said output end of said hollow shaft for angular movement therewith, means for directing a liquid through said cylindrical member to said nozzle means.

/c /5 Claim 58. A combination as set forth in Claim 57 including indicating means providing a visual representation of the predetermined angle at which said nozzle means is set to oscillate through.

Claim 59. A combination as set forth in Claim 58

wherein said indicating means includes indicia movable with said hollow shaft for indicating the angular movement of said nozzle means, a first indicating means connected to said hollow shaft for indicating one end of said angular movement, and a second indicating means connected to said nozzle means for indicating the other end of said angular movement.

Claim 60. A combination as set forth in Claim 4 wherein said cap has nozzle means therein, means for directing liquid through said hollow shaft and said nozzle means.

Claim 61. A combination as set forth in Claim 60 including indicating means providing a visual representation of the predetermined angle at which said nozzle means is set to oscillate through.

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An oscillating transmission comprising: Claim 62. an input shaft means; an output gear means; a pivoted gear cage having two drive gear means thereon, a first clockwise drive gear means and a second counter-clockwise drive gear means for alternate driving engagement with said output gear means to oscillate it; said input shaft means having a gear driving said two drive gear means, said pivoted gear cage being pivotally mounted so that in one position said first clockwise drive gear means drivingly engages said output gear means and in a second position said second counter-clockwise drive gear means drivingly engages said output gear means; a first spring means for biasing said gear cage to bias only one of said drive gear means or the other into driving engagement with said output gear means on only one side of a first intermediate position between said driving engagement positions of said drive gear means; toggle means mounted for movement relative to said gear cage between a cooperating first and second limit means on said gear cage, said toggle means including second overcenter spring means for biasing said toggle means against said first or second limit means on said gear cage on either side of a second intermediate position; said first limit means, when biased by said second overcenter spring means through said toggle means, biasing one of said drive gear means of said gear cage into driving engagement with said output gear means along with said first spring means for rotating said output gear means in one direction; said second limit

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means, when biased by said second overcenter spring means through said toggle means, biasing the other of said drive gear means of said gear cage into driving engagement with said output gear means alone for rotating said output gear means in the other direction; actuating means on said toggle means; said output gear means having contact means to contact said actuating means to move said toggle means in one direction over said second intermediate position where the second overcenter spring means will bias said toggle means to its cooperating limit means and then bias the gear cage against the bias of said first spring means; when the gear cage is moved over said first intermediate position the second overcenter spring means will bias said gear cage to driving engagement changing the direction of rotation of said output gear means whereby said contact means of said output gear means will contact said actuating means on said toggle means and move said toggle means in the other direction over said second intermediate position where the second overcenter spring means will bias said toggle means to its other cooperating limit means and then bias the gear cage; when the gear cage is moved over said first intermediate position the first spring means will join the second overcenter spring means and bias said gear cage to driving engagement changing the direction of rotation of said output gear means.

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